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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,585	04/12/2004	Hossein Rojhantalab	ITL.0989D1US (P16403D)	2652

7590 07/22/2005
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EXAMINER

MACARTHUR, SYLVIA

ART UNIT PAPER NUMBER

1763

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/822,585

Applicant(s)

ROJHANTALAB ET AL.

Examiner

Sylvia R. MacArthur

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the amendment cites that the down force pressure is “less than 1 psi” while the stated support of the claim found in specification page 4 line 17 cites that the force is “less than about 1.0 psi”. As the claim stands the uncertainty of the measurement or the bounds of the claim can not be established. “Less than 1” can be read upon between 0-2 psi. The 102 (e) rejection under Tolles would stand. However, if the amendment is supposed to be “less than about 1.0” the bounds of the claim are 0.0-0.9999999 psi and a new grounds of rejection is necessitated.
3. The amendment should be corrected to eliminate the need to make a “new matter” rejection” created by this disparity.
4. For the remainder of the action, the claim is read as “less than about 1.0” psi.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 11,12,14, and 15 35 U.S.C. 103(a) as being unpatentable over Tolles (US 6,623,341) in view of Fang et al (US 6,347,978).

Regarding claim 11: Tolles teaches a substrate polishing apparatus. Wherein the system comprises a polishing platen 22 rotatable at between about 10 rpm and about 100 rpm; and a polishing head to hold a semiconductor wafer and urge the wafer against the polishing pad 100 at down force pressure of 2 psi. See col. 9 lines 18-20.

Tolles fails to teach that the down force is less than about 1.0 psi.

Fang et al teaches a polishing method wherein the down pressure is 0.8 to 1.5 psi.

The processing parameters of CMP are optimizable and substrate used and the desired process result. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to modify the teachings of Tolles to include a lower polishing pressure as taught by Fang et al.

Regarding claim 12: The system of Tolles further comprises a dispenser to hold an abrasive slurry and dispense the slurry onto the polishing pad, see col. 8 lines 28-30.

Regarding claim 14: The polishing head of Tolles is rotatable according to col. 5 lines 63 and 64.

Regarding claim 15: The system of Tolles is inherently capable of removing total material of less than 500 Angstroms. Additionally, the amount of material removed is a matter of an intended and is not given patentable weight. The inclusion of material or article worked upon by a structure does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).

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7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tolles in view of Fang et al as applied in claims 11,12,14, and 15, and in further view of Donohue et al (US 6,312,319).

The teachings of Tolles and Fang et al were discussed above.

Both fail to teach a conditioner as claimed in claim 13 of the present invention.

Donohue et al teaches a CMP apparatus in which a rotating brush with bristles mounted on a pellet, see col. 16 lines 1-18.

The motivation to modify the teachings of Tolles and Fang et al to include those of Donohue et al is that this conditioner ensures the cleanliness of the polishing result by cleaning the pad and provide more texture to the pad for cleaning as discussed in col. 16 lines 1-18 of Donohue et al.

Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to combine the teachings of Tolles, Fang et al, and Donohue et al.

Response to Arguments

8. Applicant's arguments with respect to claims 11-15 have been considered but are moot in view of the new ground(s) of rejection. Fang et al teaches a down force pressure range of 0.8 to 1.5 psi which mean the amendment to claim 11 requiring a force of less than about 1.0 psi.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-F during the core hours of 9 a.m. and 3 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sylvia R MacArthur

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Patent Examiner
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July 19, 2005

p.t.
PARVIZ HASSANZADEH
SUPERVISORY PATENT EXAMINER